relapse; on this occasion the Indian hemp was directed by the physician, and they speedily abated."

Columbia College, New York, December 3d, 1832.

There has now been adduced, I think, sufficient evidence to prove that this remedy is entitled to a considerable share of attention from the medical public, and that it is worthy of a distinguished place among the articles of the materia medica. Were it necessary to bring together multiplied proofs of its efficiency, this might easily be done, but I think enough has been said to justify its extensive introduction into medical practice.

I trust that this invaluable plant will be rescued from its unmerited obscurity, and become the means of preserving to the world many valuable lives; or, at least, of meliorating in numerous cases, the excruciating tortures attendant upon some of the protean forms of dropsy, and of smoothing the path "to that bourne whence no traveller returns."*

New York, December, 1832.

ART. III. *Remarks on the Euphorbia corollata.* By WILLIAM ZOLLICKOFFER, M. D., F. C. P. &c. &c.

TO such as are desirous of becoming acquainted with the remedial virtues and consecutive therapeutic operation of the vegetable productions which are indigenous to the United States, it is presumed no apology is necessary for my again intruding on the medical community, with another communication that ranges within the limits of the medico-botanical literature of this country; and to those who entertain the sentiment, that the list of our native medicinal agents is at present sufficiently enlarged to effect all that can be accomplished by physical powers; and who presume, that our knowledge upon this subject has attained its ultimate point of improvement, and consequently display no interest in the subject of its ultimate furtherance, the opinion of a distinguished correspondent would seem to be peculiarly appropriate, in avowing that, "from minds capable of adopting such a sentiment science can receive no impulse, and human intelligence no especial illustration."

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* It was not until after this dissertation was written, that the existence of a paper on this subject, published by Dr. M. L. Knapp, in 1826, in a No. of the "American Medical Review and Journal," came to my knowledge. Before this, I was not aware that I had been preceded in the investigation of the properties of the Indian hemp. Although the results of, or rather the inferences deduced from some of the experiments performed by each of us, do not entirely agree, I can bear my testimony to the general accuracy with which that paper is drawn up.

Dr. Knapp appears to have administered this remedy in some other diseases with considerable benefit. When the powdered root was given in doses of grs. xv. it operated as a salutary emetic, in his own person, as well as upon others; being closely allied in this respect to ipecacuanha, for which medicament, he sometimes substituted it. It had the effect also of greatly lessening the frequency of his pulse. As an alterative, and expectorant likewise, he gave it in doses of gr. ss. to gr. ij.

The Euphorbia corollata first attracted my attention in the year 1819; and in the spring of 1821, I transmitted several of its recent roots to Professor BIGELOW, who transplanted them in the Botanic garden, and in his American Botany he has described and figured the plant.

The Genus Euphorbia was placed by LINNÆUS in the class *Dodecandria*, and the order *Trigynia*. MICHAUX has transferred this genus to *Monœcia*, *Monadelphia*. It belongs to the natural orders of *Tricoccæ* of LINNÆUS, and *Euphorbiæ* of JUSSIEU.

GENERIC CHARACTER.—The flowers of the Genus Euphorbia are characterized by a *calyciform involucrum* with *four* or *five segments* like *petals*, and the same number of *interior segments* like *nectaries*. *Stamens* twelve or more. *Filaments articulated*. Fertile flower *solitary*, *stipitate*, *naked*. *Styles three*, *bifid*. *Capsule three-seeded*.

SPECIFIC CHARACTER.—The species Corollata is distinguished from all of the other individuals belonging to this extensive genus by its *five-rayed umbel*, which is *three-parted* and *dichotomous*. The *leaves* and *involucra* are *oblong* and *obtuse*. The *segments* of the *calyx* are *obovate*, *petaloid*, and *coloured*.

Professor Bigelow has given the following excellent description of this plant. He says it—

"Has a large branching root, which sends up a number of stems, frequently from two to five feet in height. They are erect, round, and in most instances simple. The leaves are scattered, sessile, oblong, obovate or linear, a little revolute at the margin, smooth in some plants, very hairy in others. The stem divides at the top into a large, fine-rayed umbel, supported by an involucrum of as many leaves. Not unfrequently a small axillary branch or two arise from the sides of the stem below the umbel. The rays of the umbel are repeatedly trifid or dichotomous, each fork being attended by two leafets and a flower. The top of the stem or centre of the umbel is turgid, and often bears a precocious flower. The calyx is large, rotate, white, with fine obtuse petal-like segments, from which the name of the species has been taken. The nectaries or inner segments are fine, very small, obtuse projections, situated at the base of the segments. Stamens a dozen or more emerging, two or three at a time with double anthers. Germ pedicelled. Capsule three-celled."

The Euphorbia corollata is a very common plant in some parts of Virginia and Pennsylvania. In some districts of Maryland, and more particularly in Anne Arundel county, it grows in the greatest abundance, where it is recognised by the common and local appellations of *milkweed*, *snake's-milk*, *ipecacuanha*, and *Indian* physic. It delights and flourishes in a poor, dry, and sandy soil. It is rarely discovered in the woods, but in fields which are cultivated every two or three years. The farmers in Anne Arundel county, where the fields are literally overrun with it, have frequently told me that the small grain sustains considerable injury from its rapid growth in the early part of the spring, checking the natural process and progress of vegetation in the grain, and that the ordinary means which are made use of, (such as ploughing and harrowing,) in order to kill bluegrass, have the effect of increasing the quantity and rapid growth of this plant. It is never eaten by animals. The stalks which arise from the common trunk of the root, are sometimes as many as thirty, and from this down to a single one. The largest roots that I recollect seeing, measured from an inch to two inches and a half in circumference.

Solubility.—Alcohol, wine, and water are the best menstrua for extracting its active qualities. The alcoholic and watery extracts are equally active. Two thousand one hundred and sixty grains of the recent root afforded one hundred and two grains of aqueous extract; and the same amount, by digesting in alcohol, gave one hundred and twenty-three grains of alcoholic extract.

Desirous of ascertaining the relative proportions of *epidermis*, *cortical*, and *ligneous* matter entering into the organization of the root of the Euphorbia corollata, I selected a portion of healthy root, which weighed 893 grains: on examination the *epidermis* weighed 84 grains, the *ligneous* or woody part 189, and the *cortex* or bark 620. From these results it seems that the root is made up of nearly two-thirds of the part in which its activity exclusively resides. The separation of these several parts of the root I effected with the greatest possible care.

Chemical composition.—I digested for seven days, ʒij. of the powdered root in ℥iij. of sulphuric ether; this was then passed through bibulous paper, which, on the addition of rectified alcohol, (carefully prepared by myself,) gave a precipitate. ʒis. of the root, which had been digested for the same period in ℥iij. of rectified alcohol, assumed on the addition of distilled water a lacteous turbidness.—ʒij. of the root which had been permitted to digest for four days in distilled water, after being filtered, exhibited, on the addition of rectified alcohol, a turbid aspect. From these results the chemical composition of this root may be inferred to consist of caoutchouc, resin and mucous. This examination was made in imitation of that instituted by Professor Bigelow, and with effects produced by the concurrence of the same coöperating causes, perfectly analogous to those which were accomplished in his hands.

Incompatible substances.—Kino exhibited in combination with the corollata, interferes so much with its medicinal operation as to render it perfectly inert; while the kino itself undergoes such a change in its remedial powers, as a consequence of its consociation with the corollata, as entirely to alter the character upon which its astringency depends. Catechu produces the same effect, and the same interchange of reciprocal action occurs. From this circumstance I am led to the conclusion, that all astringent vegetable substances are at variance with the therapeutic operation of the corollata. In two instances I took twenty grains of the powdered root out of a phial, containing the article sufficiently active to excite *emesis*, in combination with six grains of powdered kino, and no sensible effect of the corollata was experienced, or did the kino display the least perceptible astringent operation in altering the period at which I usually have a dejection, that is, about half an hour after breakfast every morning. Nine grains of the catechu, with twenty-five of the corollata was attended with exactly consimilar results. Opium given in conjunction with it, interferes only with its emetic operation, and it should not therefore be given in combination when the object of the practitioner is to produce *emesis*. Acetic acid interrupted its ordinary operation in two instances, (and the only two cases in which I tried the experiment on myself,) by causing it to pass off by the bowels.

Pharmaceutic preparations.—The vin. Euphorbiæ corollatæ, and the pulvis corollatæ compositus. The former preparation I have made in the following way:—℞. Radicis Euphorbiæ corollatæ, ℥i.; vini albi hispanæ, octarius unus. dosis ʒii. ad ℥ss.; emesis provocandi. The latter formulæ is in imitation of the pulvis ipecacuanhæ compositus, and does not differ in the proportions, except in substituting the corollata in the place of the ipecacuanha. Both of these preparations are as prompt and effectual as remedial agents.

Medical uses.—This vegetable is emetic, diaphoretic, expectorant, and epistastic. As an emetic it is mild and certain in its operation, rarely occasioning pain or spasms, and exciting little previous nausea or giddiness; possessing an advantage over some other remedies of this class, that when it does not prove emetic, it passes off by the bowels. The dose of the powdered root that is required to excite emesis, is from fifteen to twenty grains. This substance is better calculated to effect certain indications, than the more nauseating articles belonging to this class of remedies; and as the judicious practitioner, in the selection of an emetic, will always be guided by the nature of the indication which he intends to fulfil, if his object be to evacuate the stomach quickly and completely, he will avoid those emetics that are distinguished by their nauseating tendency, as in cases of disease which depend on a disordered state of the stomach, in connexion with undue distention, and the presence of acrid and indigestible matter: if, on the other hand, his intention be to influence some remote organ through the sympathetic powers of the stomach, an emetic of an opposite tendency may be better calculated to answer such indications, inasmuch as the nausea which they induce, greatly lessens the force of the circulation; and as the energy of absorption is generally in an increase ratio to that of the circulation, we frequently obtain from nauseating emetics considerable assistance in the treatment of different dropsical affections. The corollata is only calculated to effect the indications which are accomplished by the primary operation of emetics, for whenever our object is to evacuate the stomach, and prevent absorption, we must take care to cut short the nauseating stage, (by such articles as produces little or none of this effect,) a precaution which is highly important in the management of cases in which poisonous substances have been taken into the stomach. My object at present is not to discuss the operation of emetics and the diversified affections in which they are not unfrequently competent to the production of the most satisfactory results, for this to me would appear to be foreign to the contemplated intention I am desirous of fulfilling by the communication of this paper. What I have said is merely intended to show the applicability of this plant to particular cases. When it is administered with the view of procuring its diaphoretic operation, the quantity exhibited at each dose should not exceed four grains, and this proportion should be given every three hours. The pulvis corollatæ compositus may very frequently be used, particularly when a stimulant diaphoretic is indicated; for from the operation of this compound remedial agent, it would seem that whilst the opium increases the force of the circulation, the corollata relaxes the exhalant vessels, and consequently induces a copious diaphoresis. The action of each of these articles would appear to be mutually lost, and converted into a powerful diaphoretic, thus affording a very beautiful illustration of the combination of medicines which excite different actions on the stomach and system, in consequence of which new or modified results are produced. The dose of this combination is the same of that of the Dover's powder. The expectorant operation of this plant may be procured in the dose of three grains, occasionally exhibited in a little honey, sugar and water, or any other suitable vehicle. In relation to its epispastic property, I would remark, that it possesses an advantage over the ointment prepared with the antimonium tartarizatum, in producing a beautiful display of pustules in twelve or fifteen hours after its application, which passes off in two or three days, without occasioning the least inconvenience whatever to the patient. The root in its recent state is merely to be applied contused to any part of the body, and permitted to remain a few minutes only, when a sufficient quantity of the lactescent matter will remain to produce the intended effect. A continuation of the pustular eruption may be kept up, by making an application of the contused root every forty-eight hours. It is the only vegetable substance that is entitled to attention on the account of the property it possesses of exciting an action on the surface in this way; and the only one that is calculated to answer the same purposes of the tartar emetic ointment.

ART. IV. *Personal Observations and Experience of Epidemic or Malignant Cholera in the City of Philadelphia.* By SAMUEL JACKSON, M. D. Assistant to the Professor of the Institutes and Practice of Medicine and Clinical Practice in the University of Pennsylvania. [With two plates.]

(Continued from Vol. XI. page 346.)

THIRD period, or incipient concentration.—The phenomena of this stage of the disease, are the mere exaggeration of those attached to the first periods; but there are superadded additional phenomena, the secondary effects or consequences of the persistance of the irritation developed in the alimentary mucous membrane, the disorders that state induces in important functions, and the evacuations or losses it occasions—effects that are generally connected with a particular state of predisposition arising out of the constitution, habits, previous diseases, age, or other individual circumstances, and the specific action, probably, of the epidemic principle.

In this period, as in the first and second, the leading phenomena proceed from the disordered condition *of the alimentary canal.* Vo-